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Author: Tom Brindle
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Amateur Metal Detector Finds and Romano-British Settlement: A Methodological Case Study from Wiltshire

Tom Brindle

Introduction

Since 1997 there has been a national system for recording amateur metal-detector discoveries in England and Wales. The Portable Antiquities Scheme (PAS) was established to promote understanding of the archaeological importance of finds made by metal detector users and to create a system where it is easy for finders of archaeological material to report their discoveries. Now in its eleventh year, the PAS holds a database with records for over 300,000 artefacts, of which over 85,000 records relate to the Roman period. The PAS database has begun to receive the attention of a growing number of academic researchers. This has primarily been by those concerned with the investigation of particular artefact types (the work of Gabor Thomas (2003), for example, on early medieval strap-ends) or occasionally the investigation of a site represented by a large number of metal detector finds, or finds suggestive of a particular type of settlement (for example, Stephen Young's excavation of a villa site discovered by metal detector users in Northamptonshire (Young forthcoming). Instead, this paper discusses some methodological considerations for using entire assemblages of metal detector finds over a wide geographical area. Using Wiltshire as a case study, the paper considers how metal-detecting data can contribute to the understanding of Romano-British settlement at both regional and local levels.

Metal-detecting and the Portable Antiquities Scheme in Britain

Since its emergence as a hobby in the 1970s metal detecting has proven controversial amongst archaeologists. Some have argued that amateur metal detector users damage archaeological sites through the indiscriminate removal of artefactual evidence whilst others have seen the recovery and reporting of such artefacts as an additional resource for understanding the past (Dobinson and Denison 1995: 1). In Britain metal detecting has always been a legal activity, provided that those searching for artefacts have the permission of landowners to search the land and avoid scheduled sites. Under the Treasure Act (1996) finders of material qualifying as Treasure are legally required to report their finds (for a full definition of what qualifies as Treasure see www.finds.org.uk/treasure), whilst finders of non-Treasure are encouraged to voluntarily report their finds to the PAS. Certainly there are a small minority of metal detector users who are responsible for the destruction of archaeological sites and who undertake illegal activity in pursuit of financial gain. However, most archaeologists now accept that the majority of metal detector users undertake their hobby responsibly and that when artefacts are reported metal-detector finds offer a valuable addition to the corpus of data relating to the past (Macnab 2005: 1–2).

The PAS was established in 1997 to facilitate the recording of Treasure finds, but also as a system to promote the reporting of all archaeological discoveries, along with a national standard for recording such finds. A national network of finds liaison officers are responsible for liasing with finders of archaeological material through attendance at metal detector clubs

and by holding drop in meetings in museums and similar venues. Finds are then recorded onto a publicly accessible internet database. Whilst the PAS database is comprised predominantly of metalwork, finds of other archaeological materials are also recorded, including non-metal finds picked up by metal-detector users along with chance finds discovered by other members of the public.

Methodological considerations

Amateur metal-detector finds are predominantly derived from the plough soil of land under arable cultivation. The finds generally represent unstratified material akin in many ways to that recovered from archaeological fieldwalking surveys. The data therefore offer some of the advantages of fieldwalking survey for site location and for enhancing understanding of the geographical distribution of Romano-British activities. Before considering this in more detail it is important to consider some of the ways in which metal detector finds differ from those recovered from archaeological fieldwalking projects.

Fieldwalking surveys are generally undertaken as systematically as possible and much has been written about the importance of recognising and minimising bias in the data (e.g. Haselgrove 1985; Millett 1985; Van Leusen 2002). Where biases are identified they are normally acknowledged within the reports so that the reader can consider whether this may have affected the resultant interpretation. Assessing the extent of the bias within amateur metal detector data is immensely difficult. It is incredibly hard (impossible in some cases) to discern how much assemblages from particular areas are affected by biasing factors. Examples include the extent to which the land has been subject to metal detector use previously, the history of agricultural activity, how often the reporting finder searched on the site, whether the finder collected everything they found, whether the finder reported everything they found, whether there were areas where the finder searched and did not find material and whether other material was recovered and not reported by other metal detector users. It is clear then that amateur metal detector finds, whilst superficially similar to data recovered from systematic field surveys, are bound to be subject to biasing factors that are difficult to account for. This inevitably places limitations upon what the data can be used for. Absence of data within a particular area cannot, for example, be seen as absence of activity or occupation, as we rarely have information about areas that were searched and were unproductive. However, at findspots where metal detector data is present the artefacts that make up assemblages do have the potential to allow informed interpretations to be made. Whilst the limitations of the data are evident, and should always be borne in mind, this should not prevent us from attempting to make use of what is becoming a vast archaeological resource.

Artefacts recovered from metal detecting also differ from those gathered during fieldwalking surveys in another fairly obvious (but important) way. The results from fieldwalking projects are overwhelmingly concerned with ceramics. This is evidently because ceramics are one of the most durable and therefore more widespread forms of archaeological evidence, but also because they are often fairly visible on the surface of fields. Finds of non-ceramic material are less likely to be recovered during fieldwalking exercises, partly because they do not share the same ubiquity as ceramics, but also because they are less easily recognised by archaeologists who tend to be more familiar with ceramic material (Carreté *et al.* 1995: 52). Amateur metal detector finds therefore present a very different data set to most fieldwalking surveys and it is

important to consider whether it is appropriate to view the distributions of ceramics and metal artefacts in quite the same way.

There is now a vast literature on interpretation of surface artefact scatters and I make no attempt to summarise all of the arguments in this paper. It is important however to consider briefly some of the main issues. It is now generally agreed that surface scatters of ceramics do not necessarily represent archaeological 'sites' in the traditional sense, in terms of a foci for activity, but rather that landscapes are populated by a continuous distribution of artefacts that reflect activity beyond the confines of occupation sites (Bintliff 2000: 1; Terrenato 2000). This is largely based upon the premise that much of the ceramic material recovered during fieldwalking surveys entered the archaeological record as domestic waste distributed on agricultural land associated with settlements as manure. Many analyses exploring the variation in densities of ceramics across landscapes have been undertaken and it is often argued that peaks in density represent likely locations for settlement with a gradual decline in density away from the centre of occupation (Kuna 2000: 31). This approach is not without its criticism (Barford *et al.* 2000: 77; Bintliff 2000: 4; Kuna 2000: 31), but the concept is still adhered to by many workers.

However, whether metal artefacts can generally be seen to have entered the archaeological record in a way similar to that usually argued for ceramics is questionable. Certainly some metal artefacts such as dress accessories and coinage must represent casual losses. But it is questionable whether many of the artefacts represent the distribution of waste in the same way that is often argued for ceramic material. Where a group of metal artefacts comprised largely of Roman brooches and coinage, for example, are discovered within close proximity it seems to me significantly more likely that they relate to a focus of activity rather than the general 'background level' of artefacts that occur across the wider landscape. This is based on the likelihood, in my opinion, that objects of copper-alloy, a recyclable material, may have been retained for repair or recycling rather than being discarded along with other domestic waste in middens. Certainly, evidence for the repair of artefacts such as brooches is well attested, and the PAS database contains a number of repaired metal artefacts. It is probably fairly safe to assume that in general coinage was not deliberately discarded as midden waste (of course many artefacts could have been discarded as part of ritual activity or deliberately deposited as a hoard) although some coins perhaps would enter the archaeological record in this way as they were swept up during the cleaning of a house for example.

Arguably then, collections of metal artefacts found within relatively close proximity are more appropriate for site definition than scatters of ceramic material. However, it is clear that not all metal artefacts do represent evidence for 'on-site' activity and some must be the result of loss and discard in the landscape surrounding sites. The important question is how can one distinguish between the two? As discussed above, the presence of a number of metal artefacts found within close proximity is suggestive of site activity. But how many artefacts are required before a findspot can be considered a site? In a previous paper I have used a fairly arbitrary threshold of ten artefacts found within a 250 metre radius to distinguish between likely on-site activity and off-site scatters (Brindle forthcoming). I maintain that in order to effectively interpret findspots of metal-detector data an attempt needs to be made to distinguish between on-site and off-site activity and the application of spatial and numerical thresholds present the most feasible way of doing this. However, before this is undertaken some important factors need to be considered.

First is the issue of determining association between artefacts. Attempts to interpret scatters of surface material are made problematic by the difficulties of proving association between artefacts at findspots where the distribution of finds are likely to be affected by post-depositional processes (Millett 2000: 216–218). Most obviously, where recovered from soil that has been disturbed through ploughing it is evident that artefacts will have been moved beyond their original place of deposition, but other geomorphological factors such as subsidence and erosion have also been shown to affect the contemporary distribution of artefacts (Allen 1991). Proving association between artefacts that have been subject to such processes will always be problematic and with amateur metal detector finds the issue is compounded by the reliance upon the locational information provided by the finder, as grid references provided to finds liaison officers often mark the general area in which finds are discovered.

The above issues make it difficult to demonstrate association between artefacts with any certainty, but the imposition of a spatial threshold within which it seems likely that finds may be related presents a way of attempting to interpret the PAS data. For the purposes of this work I have used a spatial limit of 200 metres. Artefacts separated by a distance of not more than 200 metres are considered potentially related and therefore from the same 'findspot'. This spatial limit is of course fairly arbitrary but it has been considered necessary in an attempt to interpret significant quantities of data over a very wide geographical area. It forms a basic method of classifying findspots based upon their quantitative assemblages. The spatial threshold of 200 metres has been arrived at based upon consideration of the size of different rural settlements known from plans and illustrated in Hingley's 'Rural Settlement in Roman Britain' (1989).

We next come to the issue of relying upon a quantitative approach to 'site' definition. The imposition of an arbitrary numerical threshold could result in a scenario where findspots of low numbers of artefacts are excluded from consideration. However, it is important to note that even findspots represented by low quantities of artefacts may have actually been occupation sites. In Britain, where low-status Romano-British rural sites have been excavated they are sometimes very poorly represented by metal finds and it is clear that in some cases even the presence of a small number of coins or brooches could relate to low-status settlement of some form. Furthermore, it is likely that there is an inverse relationship between the state of preservation of the below-ground part of a site and the number of finds available for detection in the ploughsoil of a field (Barford *et al.* 2000: 77). If a site has not been significantly damaged by agricultural processes then fewer artefacts may be recoverable by metal detecting, and there is a possibility that findspots where as few as one or two artefacts have been recovered from the ploughsoil represent sites where considerably more material lies undisturbed, at a depth beyond which a metal detector signal can reach. However, without further investigation in the form of excavation or geophysical survey it is very difficult to determine the nature of activity at a findspot represented by low quantities of finds.

Perhaps even more important than the above issue is the variable amount of metal artefacts likely to have been in circulation at particular points of time in the Roman period. This can be clearly demonstrated with reference to coinage. Late third and fourth century coins are very common Romano-British site finds, far more common than coins of earlier date, reflecting the abundance of low value copper-alloy coinage in circulation during the later Roman period. Indeed, finds of Roman date on the PAS database are dominated by late Roman coinage. Where a site was occupied in the early to mid-Roman period, but abandoned before the late third century we would therefore expect to see significantly less coins than at findspots that represent

occupation that started in or continued through to the late third or fourth centuries. A findspot which yielded ten fourth century nummi of the House of Constantine, for example, would not raise any eyebrows. However, a findspot with even five denarii (or even lower value coinage such as asses or sestertii) of first to second century date would command more attention and perhaps could be regarded as just as likely to relate to settlement as findspots with significantly greater quantities of later material. For this reason any attempt at site definition requires a methodology of mixed quantitative and qualitative criteria and findspots with relatively low numbers should not be dismissed out of hand. Whilst it is important not to neglect findspots which are represented by low numbers of artefacts it is important to note that these are often less amenable to interpretation than findspots where larger numbers of artefacts have been recovered and there is likely to be a greater amount of uncertainty regarding findspots from where artefacts are numerically low.

A regional case study from Wiltshire

The discussion so far has sought to demonstrate the nature of amateur metal detector data, some of the issues associated with such a resource and a methodology for using amateur metal detector data effectively. The remainder of this paper discusses the application of the above methodology to a case study from Wiltshire in southern England.

Modern Wiltshire is located within the territory of three of the traditionally viewed Iron Age tribes, the *Durotriges* in the south whose territory also extends into Dorset, the *Dobunni* in the west and north, extending into Somerset and Gloucestershire and the *Atrebates* in the east with territory that extends into modern Hampshire (Cunliffe 1993: 208; Corney 2001: 6).

The county does not therefore form an archaeologically distinct entity, but contains variations in the settlement pattern within its borders, whilst sharing common Romano-British archaeology with parts of its neighbouring counties. For this reason, the county has often been considered as part of regional investigations into the wider area of Wessex (cf. Cunliffe 1993), and many archaeological studies use land units based on the respective tribal areas, rather than, historically meaningless, modern counties. Wiltshire, is therefore, characterised by a number of attributes familiar to the Wessex area in general during the Romano-British period; the emergence of a number of small towns, the presence of villas, and often, continuity from the Iron Age to Roman periods of rural settlement within a highly ordered agricultural landscape (Cunliffe 1993: 219; Corney 2001: 8), although each of these parts of the settlement pattern are subject to locational variation throughout the county.

Archaeological research in Wiltshire has tended to be subject to the biases that have occurred in many other parts of Britain, with agendas directed towards sites of urban, ritual and high status nature, although military sites, so often over represented in other areas have not been subject to a great deal of investigation in the county, chiefly because there are very few known examples. However, whilst low-status rural settlement is often poorly understood in other parts of Britain, largely because such sites have been neglected in favour of materially richer sites, in Wiltshire understanding of rural settlement is quite advanced. This is partly because of recent work into well preserved rural landscapes that have been spared the destructive processes of modern agriculture, such as the Salisbury Plain (Mcomish *et al.* 2002; Fulford *et al.* 2006), but, elsewhere in the county, it is also the result of an increase in development led excavations and aerial photography.

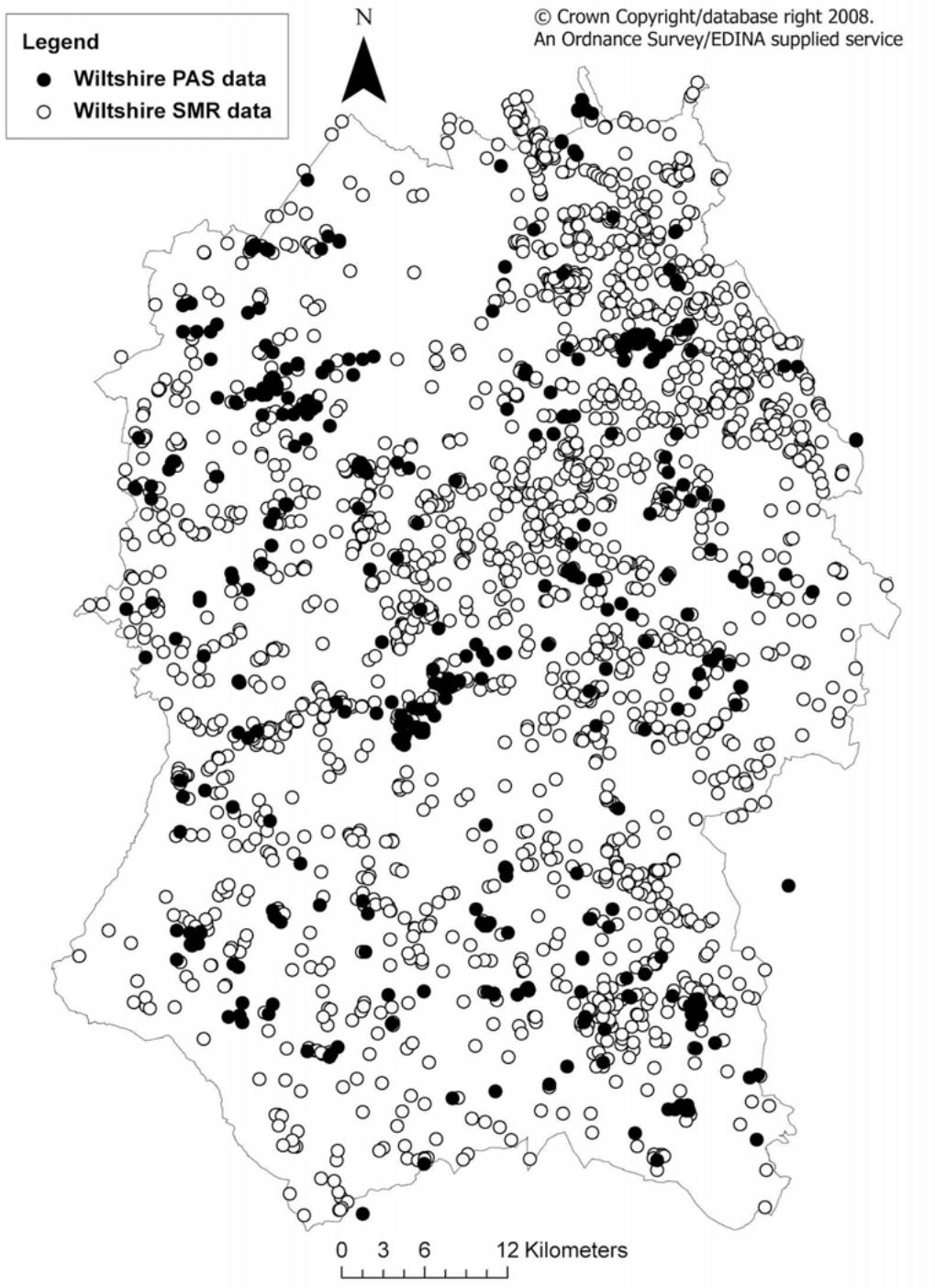

Figure 1: General distribution of PAS and SMR data in Wiltshire.

The following discussion is based upon data downloaded from the PAS database on January 10th 2008. At that time the database held 5708 records for Wiltshire, of which 2657 date from the Roman period. In terms of assessing the extent to which PAS data can contribute to knowledge of the Romano-British period at a regional level it is useful to consider the geographical distribution of the data alongside the distribution of data for the Romano-British period held by the Sites and Monuments Record (SMR) for the county.

Fig.1 shows the general distribution of PAS data for the Romano-British period alongside that from the Wiltshire SMR. SMR data appears generally to be more widespread across the county, and there appear to be no wide areas where PAS data occurs and SMR data does not. There is a notable lack of data from both datasets in the north of the county, where a belt of heavy clays prevent good evidence from aerial photography and where areas of woodland and a lack of arable farming has prevented access to metal detectorists.

However, despite the apparent similarities in distribution of the two data sets a kernel density analysis undertaken in GIS indicates that there are nuances within the distributions. Kernel density analysis interpolates the density of features within a user-defined search radius (the 'kernel'), producing an average density value for each cell and thus providing a set of continuous surface values that allow recognition of areas of relative intensity (Conolly and Lake 2006: 175–177).

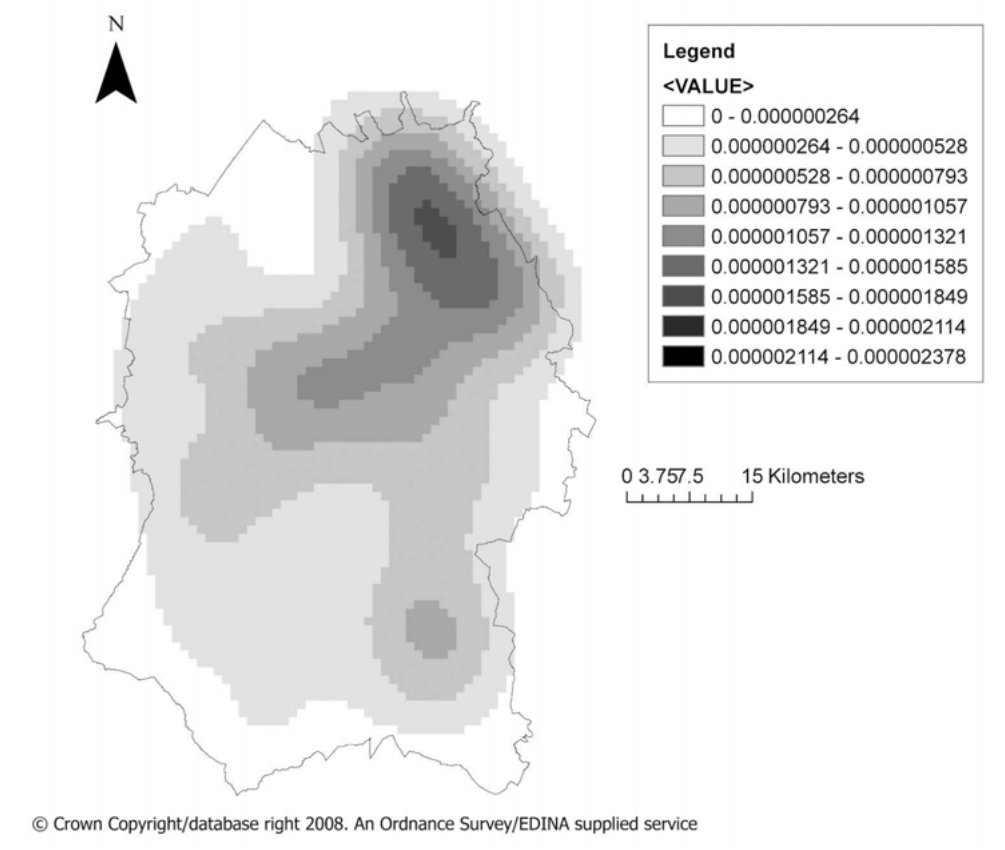

Figure 2: Kernel Density Analysis of SMR data.

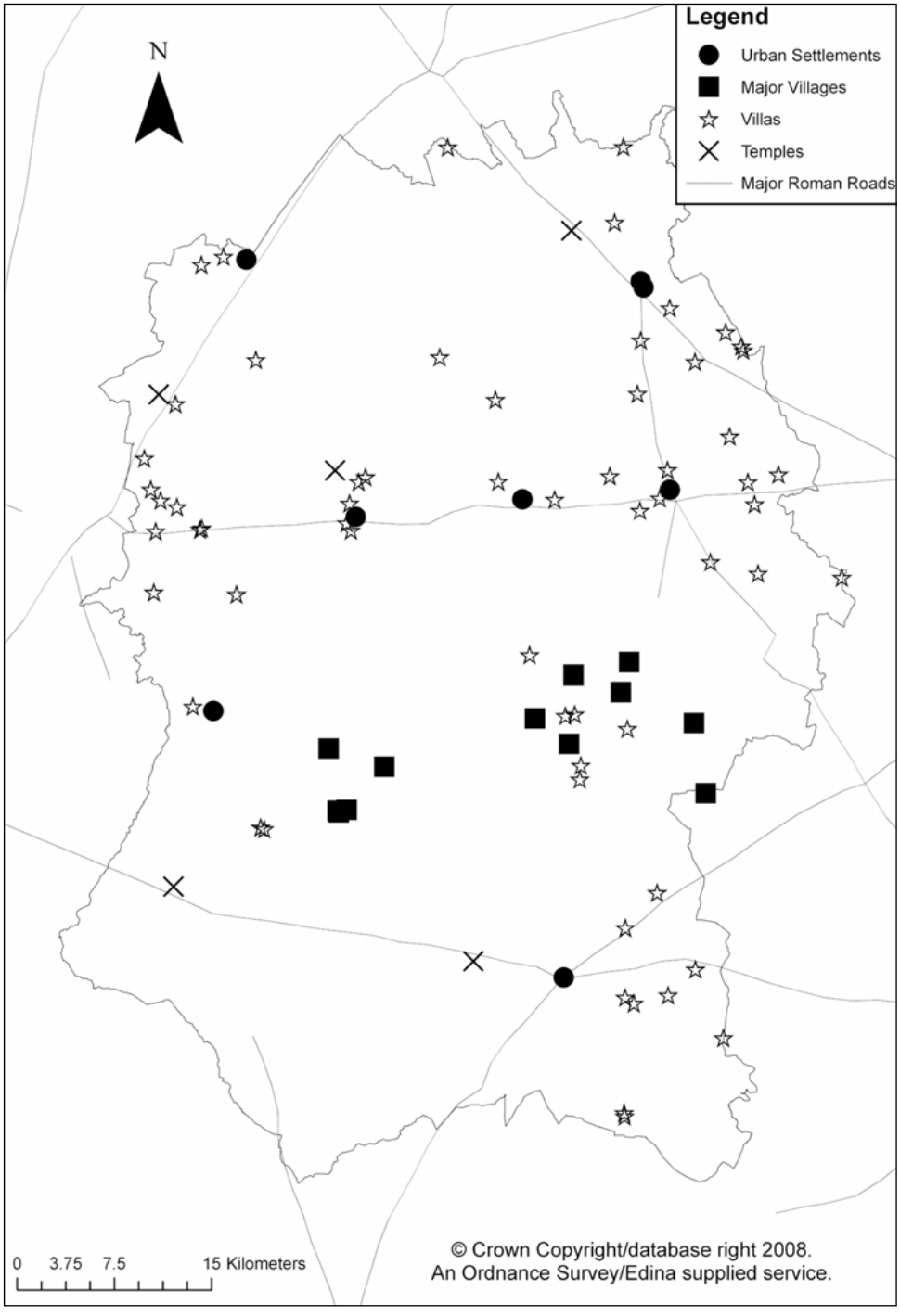

Figure 3: Distribution of major settlements, villas, temples and major Roman roads in Wiltshire.

The use of different search radiuses has the potential to produce different results, as more or less features are included in the kernel (for example, a narrow radius would include fewer features, whilst a wide radius would include more).

For the purposes of this paper, the kernel density analysis for both data sets was based upon a search radius of 12581.2 square metres, the mean parish size for the county. This technique demonstrates that particularly high densities of SMR data occur on the Marlborough Downs in the north east of the county and on the South Wiltshire Downs in the south east, where the chalk uplands are susceptible to aerial photography and where excavations ahead of development in the urban areas of Swindon and Salisbury have provided a lot of information (Fig. 2).

Fig. 3 shows the distribution of major Romano-British settlements, temples and villas in Wiltshire, in relation to the major Roman road network (based on sites recorded on the Wiltshire SMR). Comparing the results of the SMR kernel density analysis in Fig. 2 with this map it is possible to see that SMR data tends to be most dense around major Roman settlements and villas, reflecting high numbers of records associated with these sites and perhaps also increased archaeological endeavour as a result of the presence of these settlement types.

Fig. 4 shows the results for a kernel density analysis of PAS data. Whilst PAS data also often occurs in the vicinity of major settlements and villas, in particular those on the Marlborough

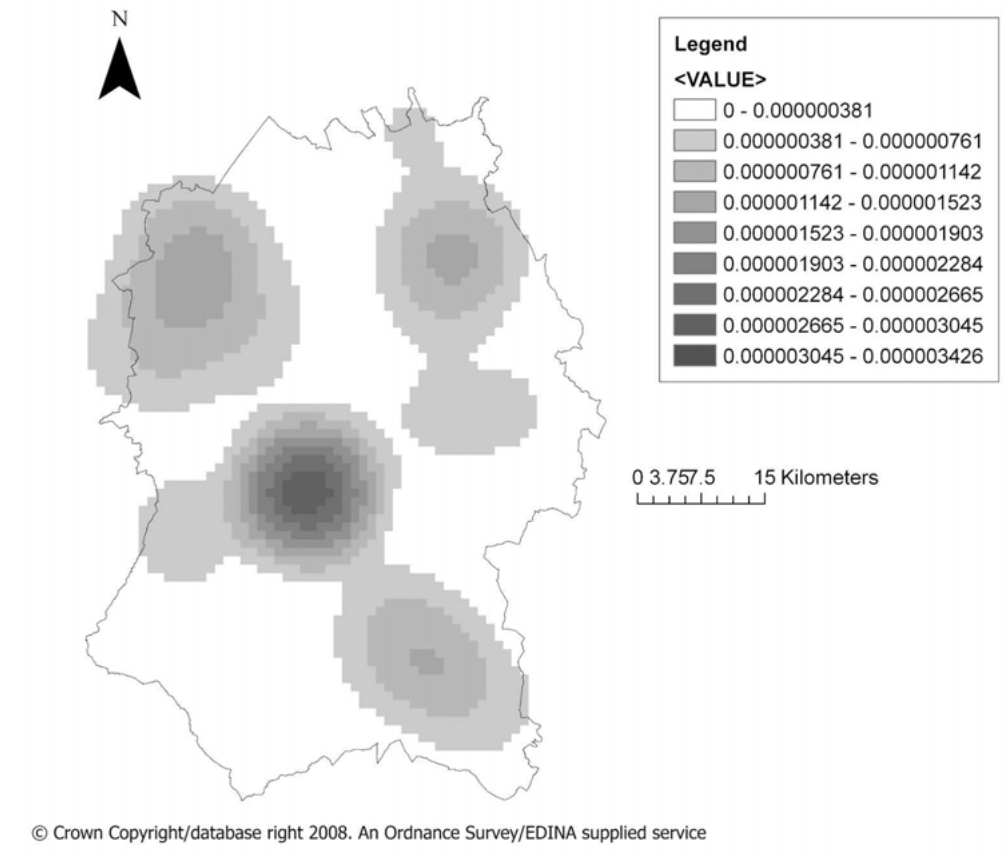

Figure 4: Kernel Density Analysis of PAS data.

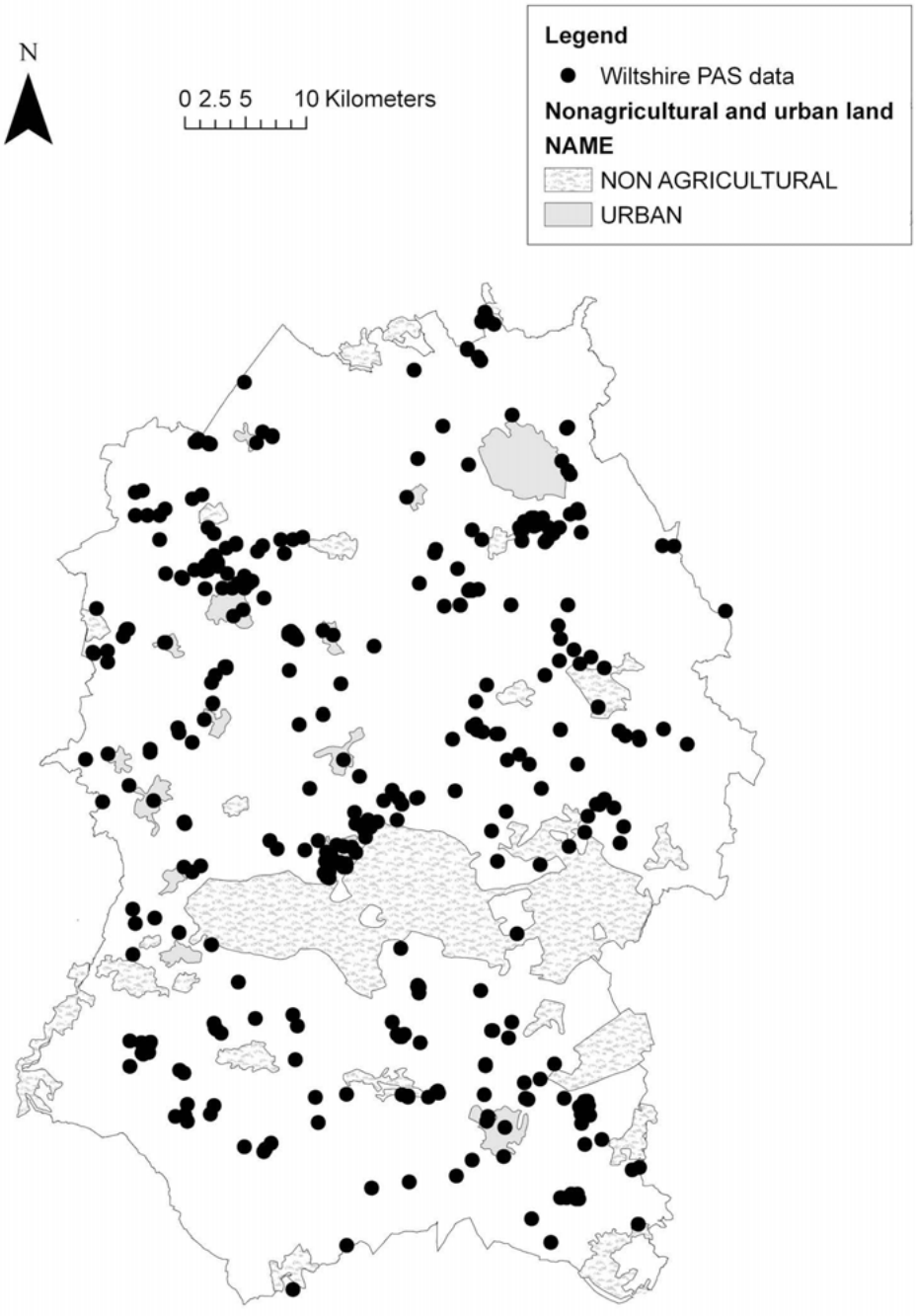

Figure 5: PAS and SMR data in Wiltshire in relation to non-agricultural and urban areas.

Downs in the north east, and the South Wiltshire Downs in the south east, it is also well represented in some areas not characterised by the known major settlements, villas and temples shown in Fig 3. This implies that PAS data has the potential to provide significant information on areas that have perhaps previously been neglected by Roman archaeologists as a result of a perceived lack of Roman sites.

It is important to note, however, that all of the areas well represented by PAS data are characterised by large expanses of land used for arable farming. This illustrates a bias in terms of the broad distribution of PAS data; it does not provide good information for areas that are characterised by pasture or in areas of woodland or other non-agricultural land. Fig. 5 shows PAS and SMR data in relation to areas of urban and non-agricultural land, demonstrating the effect on where evidence is available from metal detecting. The large expanse in the centre of the map is the Salisbury Plain military training area and metal detector finds are unavailable from here for fairly obvious reasons.

Using the methodological considerations discussed above the Roman records have been interpreted as relating to 298 distinct findspots; artefacts considered as potentially related based upon spatial proximity within 200 metres. Each of these findspots has been placed within one of five categories; single finds of metalwork, findspots of between two and four metal artefacts, findspots of between five and ten artefacts, findspots with over eleven artefacts and findspots of exclusively non-metal artefacts.

Of the 298 findspots, 236 (79.2%) are located at least 200 metres away from the nearest SMR record, and are here considered as previously unrecorded findspots. Sixty two findspots (20.8%) are located within 200 metres of the nearest SMR record, and may therefore be related to activity previously recorded on the SMR. There are 2628 records on the Wiltshire SMR. If, for arguments sake, each of the records on the SMR were seen as a distinct findspot then the 236 findspots represented by PAS data would add a further 8.9% to the total number of findspots on the SMR. This is something of a crude calculation as it is clear that in fact many SMR records relate to the same site or activity, but it serves to demonstrate the potential contribution that PAS data has to enhance knowledge of the distribution of Romano-British activity in Wiltshire.

Going beyond simple distribution maps, the division of the findspots into different categories allows the selection of those that offer the most potential for further interpretation. Inevitably, the findspots most amenable to interpretation are those in which most finds have been discovered. Realistically, this generally includes assemblages with between 5 and 10 metal artefacts, and those with more than 11 artefacts. As discussed previously, this does not assume that findspots where low numbers of finds have been discovered are ‘non-sites’, but rather that any detailed level of interpretation for such findspots is likely to be very difficult.

The process of dividing findspots into categories has led to the recognition of a number of parishes in which more detailed, localised analyses would prove useful. The remainder of this paper discusses just one of these parishes in some detail, and hopes to demonstrate how amateur metal detector finds can be useful in local as well as regional analysis. The name of the parish in question is omitted from the discussion below in order to protect the area from indiscriminate metal detecting. This threat is of course recognised by archaeologists, but it is also an issue considered by responsible metal detector users who report their finds to the PAS, and who occasionally express concern that sharing their information with archaeologists may lead to activity by unscrupulous individuals. It is therefore partly to avoid alienating

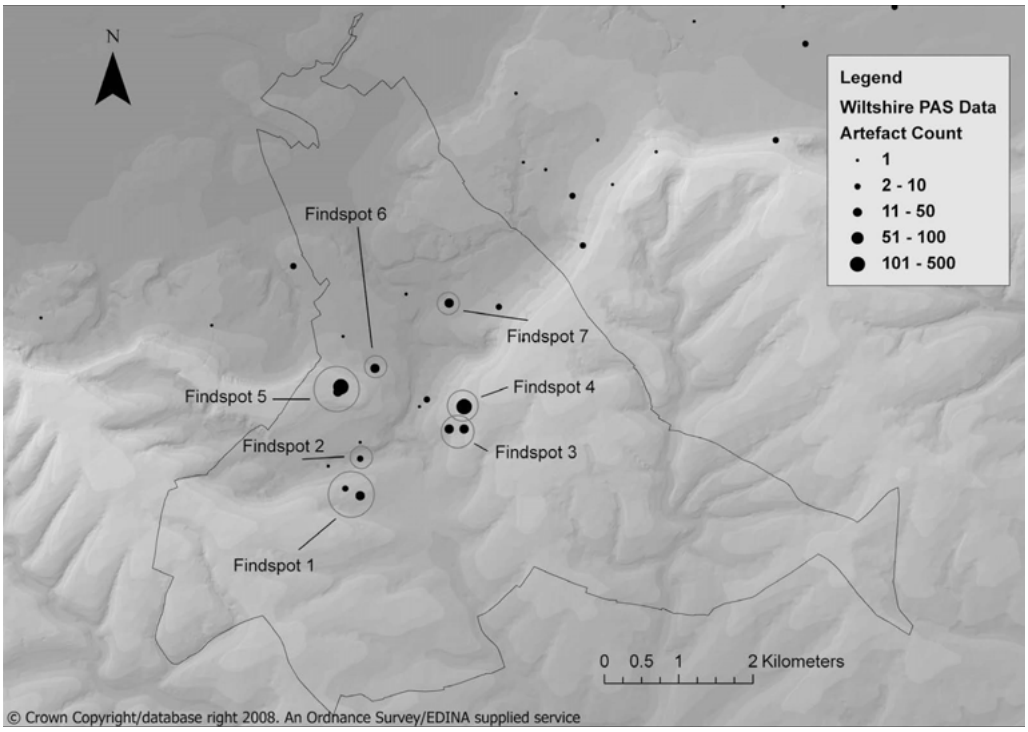

Figure 6: Distribution of PAS data in a central Wiltshire parish.

conscientious metal detector users that the locational information is somewhat restricted in the ensuing discussion.

A localised case study from central Wiltshire

As discussed, the above method provides a basic way of identifying findspots within the data that merit more detailed investigation. One parish in central Wiltshire, for example, yielded a group of seven distinct findspots with high artefact counts. Five of these had at least 25 artefacts and two of the findspots yielded 229 and 492 finds respectively. The parish is also represented by a further seven findspots with lower artefact counts (Fig. 6).

Before discussing the data further, it is important to consider the quality of the locational information given in the records. Within the parish, all but three of the finds were collected by a single individual who recorded his finds to six or eight figure grid references. Most of the main finder's material is metalwork, but some non-metal artefacts were also reported. The further three finds were pottery sherds and tile collected by a non-metal detector user and also recorded to a six-figure grid reference. Comments on the PAS database indicate that the grid-references given generally refer to the centre of the area within the fields from which the finds were discovered, so in each case it is reasonably certain that the finds were distributed over a slightly wider area than that suggested by the single grid-reference; the exact location of each find is not provided. Nonetheless, the level of detail available is sufficient to be able to suggest a likely (though not certain) relationship between finds discovered within the same area.

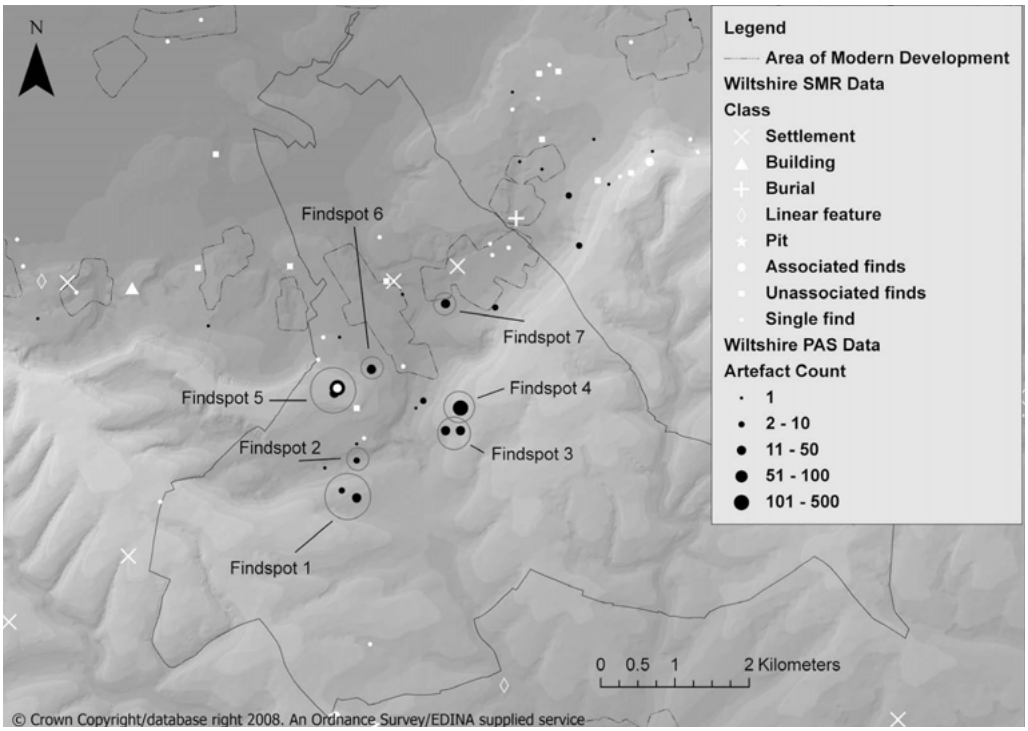

Figure 7: Distribution of PAS and SMR data in a central Wiltshire parish, in relation to areas of modern development.

The parish and its surrounding area is fairly well represented by data on the Wiltshire Sites and Monuments Record (Fig. 7), much of which was also reported by amateur metal detector users and other chance finders of archaeological material before the inception of the PAS. Only two records on the SMR from the parish are unequivocally recorded as settlements, based upon the excavated remains of Romano-British structures, although a third is recorded as a likely temple or shrine based upon the quantity of metal detector finds discovered from the area. This SMR record shares its location with PAS findspot 5, and it is apparent that the same finder is responsible for the data on the SMR and PAS databases. Fig. 7 demonstrates how many of the SMR records, particularly those interpreted as settlement sites, occur within and immediately adjacent to the developed parts of the modern parish, reflecting their discovery as part of modern activity within the developed areas. The PAS data (and some of the other material found by the public on the SMR) on the other hand, occurs further south, away from the developed areas, evidently reflecting the land available for searching by metal-detector users.

The significant numbers of finds of metalwork at some of the findspots in the parish seem more suggestive of distinct foci of activity as opposed to a general distribution of material across a landscape. However, the distances between some of the findspots are not significant enough to demonstrate that each findspot necessarily represents a discrete site. It is possible that Findspots One and Two form part of the same spread of material, and this may also be the case with Findspots Three and Four and Findspots Five and Six. It may, however, be appropriate to see the findspots as representing four discrete ‘sites’; on the hillsides to the north, south

and east of the main river valley, with a further 'site' to the northeast on the lower land within the valley, perhaps associated with the settlement sites already recorded on the SMR. It is possible that these 'sites', each separated by between one and two kilometres, could be seen as analogous to the Romano-British village-type settlements known from a few kilometres south on the Salisbury Plain.

At least eleven 'villages' are known from aerial photography and field survey of upstanding earthworks on the Salisbury Plain, preserved from agricultural destruction by the use of the plain as a training ground by the military (Mcomish *et al.* 2002: 87). The settlements have been differentiated as 'linear' and 'compact' villages, respectively those with huts that stretch to one or both sides of a trackway or 'street' and those with huts that generally spread out around a sub-rectangular area (Mcomish *et al.* 2002: 89–98). This well preserved evidence for rural settlement is unparalleled elsewhere in Britain, and there is important evidence for elements of settlements that include reservoirs for the provision of water and possible shrine enclosures, both of which are evident at one of the largest settlement sites, the compact village at Charlton Down, west of the River Avon, at which there are earthwork remains of approximately 200 individual huts (Mcomish *et al.* 2002: 90).

Many of the known Romano-British villages on the plain are located on the spurs of hills overlooking river valleys, as is the case at Charlton Down, Compton Down, Upavon Down and Chapperton Down (Mcomish *et al.* 2002: 90–98). Some of these villages are located within very close proximity, and Compton Down and Upavon Down, for example, are separated by a distance of 700 metres, whilst the villages of Knook Down East and Knook Down West are merely 600 metres apart (Mcomish *et al.* 2002: 97). If the PAS findspots from the case study parish can indeed be seen as relating to several distinct sites then their location, with many of them occupying hillsides overlooking a river valley, along with their relatively close proximity to one another, invites comparison with some of the village settlements on the Salisbury Plain, just a few kilometres to the south.

This scenario has some interesting implications. Firstly, it might suggest that the extensive village type settlements known from the plain occur a little further north than previously known, adding weight to Fulford's suggestion that it is likely to be the nature of the survival of the monuments on the Salisbury Plain that makes them unique, and that actually much of the landscape of southern Britain may have been settled in a similar way (Fulford *et al.* 2006: 214). If this were the case then the evidence provided by metal detecting on sites potentially similar to those from the Salisbury Plain might provide important information for the characterisation and chronology of such settlements.

Detailed analysis of the finds from each PAS findspot is not attempted here, but it is useful to comment on some particular aspects of some of the assemblages.

Table 1 provides a simplified breakdown of the assemblages for each of the PAS findspots in the case study parish. It is clear that in every case represented by large numbers of metal artefacts coinage dominates significantly. In terms of metalwork, brooches are the next highest metal artefact represented, although at two of the three findspots where ceramics were also collected these account for fairly large numbers of finds. Finds of non-coins and brooches are fairly infrequent and they make up very small proportions of all of the assemblages.

Table 2 (actual numbers), Table 3 (percentages) and Figure 8 provide a simplified breakdown of the chronology of the artefacts represented on the PAS database for each of the findspots from the parish. At many findspots there are a fairly large number of artefacts for which no precise

Table 1: Basic assemblage composition of PAS findspots in case study parish.

	Coinage	Brooches	Ceramic Sherds	Other Finds	Total
Findspot 1	34	5	54	6	99
Findspot 2	59	1	0	0	59
Findspot 3	72	3	0	3	78
Findspot 4	209	8	4	7	228
Findspot 5	448	8	33	3	492
Findspot 6	55	1	0	0	56
Findspot 7	24	0	0	2	26
Findspot 8	0	0	0	1	1
Findspot 9	0	0	0	1	1
Findspot 10	0	5	0	3	8
Findspot 11	0	0	0	1	1
Findspot 12	1	2	0	0	3
Findspot 13	1	0	0	0	1
Findspot 14	1	0	0	0	1

dating evidence is available and finds are often recorded with a generic Romano-British date (circa AD 43 to circa AD 410). This generally relates to ceramic material that is undiagnostic or to finds of metal work that do not fit well into typological series and are therefore not easily dated in the absence of stratigraphy. However, most coin finds are dated with a reasonable amount of precision (depending on the condition of the coins), as are most brooches. In keeping with finds of Roman coinage generally on sites across Britain (Reece 1995; Reece 2002: 93–94), the coinage in the assemblages is dominated by finds of late third and fourth century date. Because most findspots are dominated by coinage, this means that in most cases chronological information is also dominated by finds of the late third and fourth century. However, where brooches are present (and they were recovered in small numbers from all but one of the major findspots in the parish) they tend to date from the first to second centuries AD.

Where findspots are represented by very low numbers of early Roman artefacts, for example Findspot 2 which yielded two artefacts of early Roman date, and Findspot 6 which produced just one, it is difficult to argue that these represent anything other than incidental losses. However, at findspots that have produced greater quantities of early material, such as Findspots 1, 3, 4 and 5, it is possible to suggest that this may represent early activity of some sort. As each of these sites are also well represented by late Roman coinage it is possible that the evidence from both ends of the Romano-British chronological spectrum reflects continuity of activity from the early through to the late Roman period at some of the findspots within the parish, although of course it is equally possible that areas were reused after a hiatus.

Intriguingly, one of the findspots in the parish that is not well represented by finds of metalwork generally (Findspot 10, with a total of eight artefacts) yielded five brooches and three other finds of metalwork, but no coinage whatsoever. Given the relative paucity of early coinage elsewhere in the large assemblages at findspots where early brooches were discovered in some numbers, this findspot must be considered as a potential area that saw some sort of

Table 2: Basic chronological breakdown of assemblages from PAS findspots in case study parish.

	First to mid-third century	Late third to late fourth century	No dating evidence	Total
Findspot 1	19	32	48	99
Findspot 2	1	58	0	59
Findspot 3	8	67	3	78
Findspot 4	13	178	37	228
Findspot 5	21	440	31	492
Findspot 6	2	54	0	56
Findspot 7	0	24	2	26
Findspot 8	1	0	0	1
Findspot 9	0	0	1	1
Findspot 10	6	0	2	8
Findspot 11	0	0	1	1
Findspot 12	2	1	0	3
Findspot 13	0	1	0	1
Findspot 14	0	1	0	1

Table 3: Basic chronological breakdown of assemblages from PAS findspots in case study parish shown by percentage.

	First to mid-third century	Late third to late fourth century	No dating evidence
Findspot 1	19.2%	32.3%	48.5%
Findspot 2	1.7%	98.3%	0.0%
Findspot 3	10.3%	85.9%	3.8%
Findspot 4	5.7%	78.1%	16.2%
Findspot 5	4.3%	89.4%	6.3%
Findspot 6	3.6%	96.4%	0.0%
Findspot 7	0.0%	92.3%	7.7%
Findspot 8	100.0%	0.0%	0.0%
Findspot 9	0.0%	0.0%	100.0%
Findspot 10	75.0%	0.0%	25.0%
Findspot 11	0.0%	0.0%	100.0%
Findspot 12	66.7%	33.3%	0.0%
Findspot 13	0.0%	100.0%	0.0%
Findspot 14	0.0%	100.0%	0.0%

activity in the early Roman period but where activity may have ceased before the late third century. This serves as a reminder of the importance of a mixed quantitative and qualitative approach, so as not to completely neglect findspots that may have seen activity at times when less metalwork was in circulation.

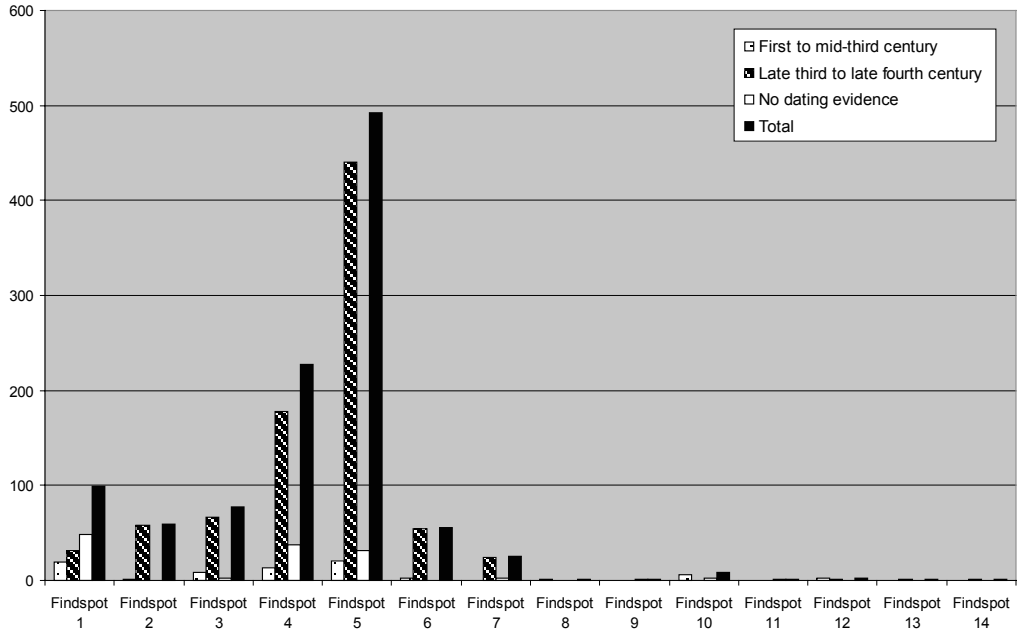

Figure 8: Chart showing chronological breakdown of assemblages from the case study parish.

Whilst detailed analysis of Iron Age and Anglo-Saxon data has not yet been undertaken for the parish it is nonetheless interesting to note that Findspots 1, 5, 6 and 7 have produced low numbers of late Iron Age artefacts whilst Findspots 5 and 6 have also produced low numbers of artefacts of Anglo-Saxon date. This indicates that at some locations within the parish there may been continuity (or a renewal of activity at different stages) from the pre-Roman and into the post-Roman period.

It is possible that statistical coin analysis of the findspots in a manner such as that developed by Reece (cf. 2002: 145–150; 1995) might prove useful for purposes of site characterisation. Such a rigid method has not been applied here, however it is possible to comment on the general nature of some of the findspots based upon the presence of particular artefact types. For example, Findspot 4, one of the most well represented in terms of numbers of finds, also produced non-metalwork evidence for three querns and a small amount of building material, whilst Findspot 5 also produced a quern. Whilst not irrefutable evidence for occupation, such finds are at least suggestive of domestic activity of some sort.

Brooches from findspots within the parish are in general dominated by Dolphin brooches, T-shaped brooches and other first-to-second century Colchester derivatives. However, an interesting occurrence of a Horse and Rider brooch was discovered at Findspot 5, the most prolific of all of the findspots within the parish, and an area from which numerous metal detector finds were also recorded on the county's SMR. Horse and Rider brooches are believed to have been associated with a native British war god, perhaps equated with Mars (Robinson 2001: 156). Examples of this type of brooch are not common in Wiltshire and this appears to be the only example recorded on the PAS database for the county. However, others are attested from known temple sites in the county such as Nettleton and Cold Kitchen Hill (Robinson 2001: 156) and are often associated

with religious sites elsewhere (Eckardt 2005: 147). Comments regarding the metal detector finds from the findspot previously recorded on the SMR suggest that the finds are of 'such quantity and quality to suggest the site of a shrine or temple'. The presence of a Horse and Rider brooch adds further credence to this suggestion, as do the very recent reports of a miniature socketed axe head and a possible figurine of Mars (Hinds pers. comm.) recovered from the findspot, both artefacts with likely religious associations. High numbers of Valentinianic coinage from the findspot are also seen as likely evidence for a temple (Moorhead pers. comm.), and it seems increasingly likely that this findspot does indeed represent ritual activity.

Whilst the above findspot is the only one in the parish that has been characterised with any degree of confidence, based on the presence of artefacts and coinage characteristic of other rural temples, it seems likely to me that the other findspots from the parish reflect further evidence for settlement within a landscape intensively occupied, and perhaps analogous to the village settlements known from a little further south in the county. Chronological evidence suggests continuity of activity from the early to late Roman period at some findspots within the parish, whilst at least one findspot is suggestive of early activity and abandonment before the late third century.

Hypotheses such as these are necessarily tentative in the absence of evidence from excavation or geophysical survey. However, it is hoped that this paper has demonstrated how the use of amateur metal detector data can contribute to the understanding of the Romano-British period, both regionally and locally. In this paper I have not attempted to provide a thorough, detailed analysis of assemblages, although further work in this area is ongoing and may in the future allow further discussion of issues such as chronology and site characterisation.

It is important to comment on one issue that has arisen as a result of the desire to disseminate the results of this research. As has already been noted, the name of the parish discussed in the localised case study has been omitted, for reasons discussed above. Whilst this paper has hoped to demonstrate some of the advantages of using amateur metal detector data as an archaeological resource (including in the above case study the identification of a likely Romano-British temple) it is at the same time restricted by the need for secrecy concerning the precise findspots. This issue is perhaps more pertinent to sites identified through amateur metal detector finds than to those discovered through more traditional archaeological methods, not because such sites are necessarily more likely to be targeted by unscrupulous individuals, but because it is important to reassure responsible metal detector users that the information they provide is used carefully, in order to maintain a healthy relationship between these finders and archaeologists. The advantages of the recognition of significant numbers of new sites through metal detecting are undoubtedly beneficial for purposes of heritage management, where full publication is not necessary, yet it must be acknowledged that the academic value can sometimes be reduced by the need to provide limited information in published form.

Nonetheless, it is hoped that the above discussion has demonstrated a useful method for using amateur metal detector data as an archaeological resource. I have attempted to present some of the issues associated with using amateur metal detector data as an archaeological resource, and have given an example of a methodological approach which, I hope, has allowed a convincing, if tentative, hypothesis to be suggested.

Department of Classics, King's College London

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Bibliography

Allen, M. J. 1991. Analysing the Landscape: a Geographical Approach to Archaeological Problems. In J. Schofield (ed.) *Interpreting Artefact Scatters: Contributions to Ploughzone Archaeology.* Oxford: Oxbow Books: 39–57.

Barford, P., Brzezinski, W. and Kobylinski, Z. 2000. The Past, Present and Future of the Polish Archaeological Record Project In J. L. Bintliff, M. Kuna and N. Venclova (eds.) *The Future of Artefact Survey in Europe.* Sheffield: Sheffield Academic Press: 73–92.

Bintliff, J. L. 2000. Beyond dots on the map: Future directions for surface artefact survey in Greece. In J. L. Bintliff, M. Kuna and N. Venclova (eds.) *The Future of Artefact Survey in Europe.* Sheffield: Sheffield Academic Press: 3–20.

Brindle, T. forthcoming. The Portable Antiquities Scheme and Roman rural settlement: some preliminary work on Wiltshire In S. Worrell, K. Leahy, J. Naylor and M. Lewis (eds.) *A Decade of Discovery; Proceedings of the Portable Antiquities Scheme Conference 2007.* British Archaeological Reports. Oxford: Archaeopress.

Carreté, J.-M., Keay, S. and Millett, M. 1995. *A Roman Provincial Capital and its Hinterland: The Survey of the Territory of Tarragona, Spain, 1985-1990*. Journal of Roman Archaeology Supplementary Series 15. Portsmouth: Journal of Roman Archaeology.

Conolly, J. and Lake, M. 2006. *Geographical Information Systems in Archaeology.* Cambridge: Cambridge University Press

Corney, M. 2001. The Romano-British nucleated settlements. In P. Ellis (ed.) *Roman Wiltshire and After.* Devizes: Wiltshire Archaeological and Natural History Society: 5–38.

Cunliffe, B. 1993. *Wessex to A.D. 1000.* Harlowe: Longman.

Dobinson, C. and Denison, S. 1995. *Metal detecting and archaeology in England.* London: English Heritage.

Eckardt, H. 2005. The social distribution of Roman artefacts: the case of nail-cleaners and brooches in Britain. *Journal of Roman Archaeology* 18: 139–160.

Fulford, M. G., Powell, A. B., Entwistle, R. and Raymond, F. 2006. *Iron Age and Romano-British Settlements and Landscapes of Salisbury Plain.* Salisbury: Wessex Archaeology.

Haselgrove, C. 1985. Inference from Ploughsoil Artefact Samples. In C. Haselgrove, M. Millett and I. Smith (eds.) *Archaeology from the ploughsoil: studies in the collection and interpretation of field survey data.* Sheffield: Department of Archaeology and Prehistory, University of Sheffield: 7–29.

Hingley, R. 1989. *Rural Settlement in Roman Britain.* London: Seaby.

Kuna, M. 2000. Surface Artefact Studies in the Czech Republic In J. L. Bintliff, M. Kuna and N. Venclova (eds.) *The Future of Artefact Survey in Europe.* Sheffield: Sheffield Academic Press: 29–44.

Macnab, N. 2005. *Archaeology and metal-detecting: A model for engaging the local community in a greenfield development.* York: Joseph Rowntree Foundation.

Mcomish, D., Field, D. and Brown, G. 2002. *The Field Archaeology of the Salisbury Plain Training Area.* Swindon: English Heritage.

Millett, M. 1985. Field Survey Calibration: a Contribution. In C. Haselgrove, M. Millett and I. Smith

(eds.) *Archaeology from the ploughsoil: studies in the collection and interpretation of field survey data.* Sheffield: Department of Archaeology and Prehistory, University of Sheffield: 31–38.

Millett, M. 2000. The comparison of surface and stratified artefact assemblages. In M. Pasquinucci and F. Trement (eds.) *Non-destructive Techniques Applied to Landscape Archaeology.* Oxford: Oxbow Books: 217–222.

Reece, R. 1995. Site finds in Roman Britain. *Britannia* 26: 179–206.

Reece, R. 2002. *The Coinage of Roman Britain.* Stroud: Tempus.

Robinson, P. 2001. Religion in Roman Wiltshire. In P. Ellis (ed.) *Roman Wiltshire and After.* Devizes: Wiltshire Archaeological and Natural History Society: 147–164.

Terrenato, N. 2000. Surface Thoughts: Future Directions in Italian Field Surveys. In J. L. Bintliff, M. Kuna and N. Venclova (eds.) *The Future of Artefact Survey in Europe.* Sheffield: Sheffield Academic Press: 21–28.

Thomas, G. 2003. Hamsey near Lewes, East Sussex: the implications of recent finds of Late Anglo-Saxon metalwork for its importance in the pre-Conquest period. *Sussex Archaeological Collections,* 139: 123–132.

Van Leusen, M. 2002. *Pattern to Process: Methodological Investigation into the Formation and Interpretation of Spatial Patterns in Archaeological Landscapes*. Dissertation Groningen: University of Groningen.

Young, S. forthcoming. *Whitehall Roman Villa – The Romanisation of a Landscape.* King's Lynn: Heritage.